

Evaluation of tomato germplasm for early blight resistance

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Tomato (*Solanum lycopersicum* L.) is one of the important vegetable crops cultivated in tropical regions of the world. Of the several diseases infecting tomato, early blight caused by *Alternaria solani* is one of the major production constraints in the country. Yield loss up to 70 per cent has been reported due to early blight. The pathogen can infect the plant at different stages like stem, leaves & also fruits. Chemical control of the disease is expensive and ineffective. Adoption of disease resistant varieties /hybrids is the most practical way to address this problem. Identification of stable sources of resistance is the basic requirement for any disease resistance breeding programme. One hundred and eighty tomato genotypes, including wild species and cultivated tomato lines were screened for resistance to early blight caused by *Alternaria solani* at Indian Institute of Horticultural Research, Bangalore during Rabi 2010. The genotypes were evaluated both under field and laboratory conditions for host plant resistance and disease severity under high humidity conditions. Of the 180 genotypes, IIHR 2101 (*Solanum habrochaires* LA-1777) showed highly resistant reaction, IIHR- 2758 showed moderately resistant reaction, 78 genotypes showed moderately susceptible reaction, 90 genotypes showed susceptible reaction and the remaining genotypes showed highly susceptible reaction. This was further confirmed through artificial screening using the detached leaf method. It was found that the sources of resistance to early blight are present within the wild tomato accession of *S. habrochaites* that can be used in the breeding programme for the development of resistant lines and further for the identification of molecular markers linked to early blight resistance in tomato.

Biography

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